



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

PL

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,312	12/29/2000	Benjamin N. Eldridge	P60D4-US	7835

27520 7590 05/24/2002

FORMFACTOR, INC.  
LEGAL DEPARTMENT  
2140 RESEARCH DRIVE  
LIVERMORE, CA 94550

EXAMINER

NGUYEN, JIMMY

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 05/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/753,312	ELDRIDGE ET AL. <i>CL</i>
	Examiner Jimmy Nguyen	Art Unit 2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 19 February 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 61-80 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 61-80 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- 1) Certified copies of the priority documents have been received.
- 2) Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- 3) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 7.

4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 61 –80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eldridge et al (US 5974662) in view of Isaacs et al (US 5789930)

**Regarding claim 61,** Eldridge et al disclose a socket or probe card assembly comprising

A first plurality of resilient contact structures (524, 516, 514) extending from a surface of a support substrate (534), the first plurality of resilient contact structures (524, 516, 514) configured to make electrical connections with a plurality of bond pads (526) on the first electronic component (508);

A second plurality of resilient contact structures (524, 516, 514) upward from a surface of a support substrate (534), the second plurality of resilient contact structures (524, 516, 514) configured to make electrical connections with a plurality of special contact pads (526) on the first electronic component (508), wherein special contact pads are smaller than bond pads; and

A plurality of contact structures (514) disposed on another surface of the support substrate (534) for making electrical contact with second electronic component (502), ones of the contact structures (514) are connected to ones of the first plurality of resilient contact structures (524, 516, 514) and ones of the contact structures are connected to ones of the second plurality of resilient contact structures.

However, Eldridge et al do not teach the first electronic component has special contact pads are smaller than bonds pads. On the other hand, Isaacs et al teach (fig 5) the first electronic component (610) has special contact pads (622, 624) are smaller than bonds pads (621, 623) for the purpose of testing pcb on plurality of different test point (column 4 line 20-24)

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Edldridge et al 's probe card assembly to use method of testing as taught by Isaacs et al) for the purpose of testing pcb on plurality of different test point (column 4 line 20-24)

**Regarding claim 72,** Eldridge et al disclose and Isaacs et al discloses all the aspect the claims invention

**Regarding claims 62, 63, 73,** Eldridge et al disclose the second electronic component is a circuit board (502)

**Regarding claim 64,** Eldridge et al disclose the socket means for urging the first electronic component (508) down onto the first and second resilient contact structures (524, 516, 514).

**Regarding claims 65, 74,** Eldridge et al disclose the first electronic component is an IC (508)

**Regarding claims 66, 67, 75, 76,** Isaacs et al disclose

A plurality of first input/output buffers and electrostatic discharge each electrically connected to one of bond pads (621, 623); and

A plurality of second input/output buffers and electrostatic discharge each electrically connected to one special contact pads (622, 624),

Wherein each of second input/output buffers and electrostatic discharge is smaller than each first input/output buffers

**Regarding claims 68, 77,** Isaacs et al disclose the height form a surface of first electronic component of each of special contact pads (622, 624) is less than a height from surface of each of bond pads (621, 623)

**Regarding claims 69, 78,** Eldridge et al disclose the second plurality of resilient contact structures extend farther from top surface of support substrate (534) than second plurality of resilient contact structures

**Regarding claims 70, 79,** Eldridge et al and Isaacs et al disclose the second plurality of resilient contact structures extend farther from top surface of support substrate (534) than second plurality of resilient contact structures corresponds to an amount by which height from surface of first electronic component of each of special contact pads is less than height from surface of each of bond pads.

**Regarding claims 71, 80,** Eldridge et al discloses each of first plurality of resilient contact structures comprises a blade tip (within the scope of the invention)

***Conclusion***

In response to amendment 2/19/02, the applicant's argument that Eldridge et al do not teach "a first plurality of contact points" and "a second plurality of contact points" include one group of pads that are smaller than another group of pads. The examiner contends that the new ground of rejection were necessitated by this amendment.

a. Applicant's arguments with respect to claim 61 have been considered but are moot in view of the new ground(s) of rejection

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

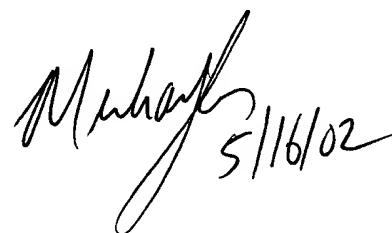
Application/Control Number: 09/753,312  
Art Unit: 2829

Page 6

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen at (703) 306-5858. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

JN.  
May 6, 2002



5/16/02

MICHAEL SHERRY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800